

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claims 1-5 (canceled)

1 Claim 6 (currently amended): A system ~~for processing~~
2 ~~information represented by an optical signal in~~ a headend of
3 an HFC cable arrangement ~~to provide a service~~, the system
4 comprising:
5 an optical receiver for converting the an upstream
6 optical signal to a composite baseband signal representing a
7 plurality of information streams;
8 a demultiplexing device responsive to the composite
9 baseband signal for generating the plurality of information
10 streams;
11 a plurality of modulators, coupled to said demultiplexing
12 device, each of the plurality of modulators corresponding to a
13 different one of the plurality of information streams, each
14 modulator for producing a corresponding modulated analog
15 signal from one of said plurality of information streams;
16 a combiner for combining a plurality of modulated analog
17 signals generated by said modulators to produce a combined
18 modulated analog signal; and
19 a subsystem for processing the combined modulated analog
20 signal to realize the service.

1 Claim 7 (currently amended): The system of claim 6,
2 wherein the upstream optical signal includes data from a
3 plurality of different user terminals; and
4 wherein the subsystem for processing recovers data from
5 respective ones of the different user terminals and reformats

6 the recovered data into Internet Protocol (IP) packets as part
7 of service includes an interactive service.

1 Claim 8 (original): The system of claim 6 wherein the at
2 least one information stream includes data bits.

1 Claim 9 (original): The system of claim 6 further comprising
2 an apparatus for providing cable television, which is
3 different from the service.

1 Claim 10 (original): The system of claim 9 wherein a signal
2 representing the cable television travels in a direction
3 different from that of the optical signal in the HFC cable
4 arrangement.

1 Claim 11 (original): The system of claim 6 wherein the
2 subsystem includes a device for modulating a designated
3 carrier with the at least one information stream to form a
4 modulated signal.

1 Claim 12 (original): The system of claim 6 wherein the
2 subsystem includes a cable modem termination system (CMTS).

1 Claim 13 (previously presented): The system of claim 12
2 wherein the CMTS includes an analog input interface.

1 Claim 14 (original): The system of claim 6 wherein the
2 composite baseband signal is encoded in accordance with an
3 error correction coding technique.

1 Claim 15-25 (canceled):

1 Claim 26 (currently amended): A method ~~for processing~~
2 ~~information represented by of operating an optical signal in a~~
3 headend of an HFC cable arrangement ~~to provide a service~~, the
4 method comprising:
5 receiving an upstream optical signal;
6 converting the received upstream optical signal to a
7 composite baseband signal representing a plurality of
8 information streams;
9 ~~in response to the composite baseband signal~~, generating
10 from the composite baseband signal, the plurality of
11 information streams;
12 modulating at least some of said plurality of information
13 streams to produce modulated analog signals, a separate
14 modulated analog signal being produced from each of said at
15 least some of said plurality of information streams;
16 combining a plurality of said separate modulated analog
17 signals generated to produce a combined modulated analog
18 signal;
19 and processing the combined modulated analog signal to
20 realize the service.

1 Claim 27 (currently amended): The method of claim 26,
2 wherein the upstream optical signal includes data from a
3 plurality of different user terminals; and
4 wherein processing the combined modulated analog signal
5 to realize the service includes:
6 recovering data from respective ones of the different
7 user terminals from said combined modulated signal and
8 reformatting at least some of the recovered data into Internet
9 Protocol (IP) packets as part of service includes an
10 interactive service.

1 Claim 28 (original): The method of claim 26 wherein the at
2 least one information stream includes data bits.

1 Claim 29 (original): The method of claim 26 wherein in
2 processing the at least one information stream, a designated
3 carrier is modulated with the at least one information stream
4 to form a modulated signal.

1 Claim 30 (original): The method of claim 26 wherein the
2 composite baseband signal is encoded in accordance with an
3 error correction coding technique.

1 Claim 31-32 (canceled):

1 Claim 33 (currently amended) The system of claim ~~33~~ 6, wherein
2 said subsystem for processing the combined modulated analog
3 signal has an analog input interface for receiving said
4 combined modulated analog signal.

1 Claim 34 (currently amended) The method of claim 26 ~~36~~,
2 wherein
3 modulating at least some of said plurality of information
4 streams includes modulating each of the at least some of said
5 plurality of information streams using a different carrier
6 frequency corresponding to a separate channel.

1 Claim 35 (previously presented): The method of claim 34,
2 wherein
3 processing the combined modulated analog signal to
4 realize the service includes:
5 recovering data from individual user terminals; and
6 reformatting the data into Internet Protocol packets.

1 Claim 36 (previously presented): The method of claim 34,
2 wherein processing the combined modulated analog signal to
3 realize the service includes:
4 recovering data from individual user terminals; and
5 reformatting the data into ATM cells.

1 Claim 37 (new) The method of claim 26,
2 wherein receiving said upstream optical signal includes
3 receiving said upstream optical signal from a distribution
4 node which is coupled to the headend by an optical fiber, said
5 distribution node being coupled to a plurality of user
6 terminals.

1 Claim 38 (new) The system of claim 6,
2 wherein said headend is coupled to a distribution node by
3 an optical fiber which supplies said optical receiver with
4 said upstream optical signal and which receives a downstream
5 optical signal from said headend.
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